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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,444	04/13/2004	Erik Cardelius	P04,0072	4840

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EXAMINER

MALLARI, PATRICIA C

ART UNIT PAPER NUMBER

3736

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/823,444

Applicant(s)

CARDELIUS ET AL.

Examiner

Patricia C. Mallari

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/13/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/25/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Claim Objections***

Claims 2 and 5 are objected to because of the following informalities:

On line 1 of claim 2, "in claim" should be replaced with "in claim 1";

On the second to last line of claim 5, "a moisture" should be replaced with "the moisture". Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over German Patent No. 3215534 to Ueda et al. in view of US Patent No. 5,351,522 to Lura. Ueda teaches a method for determining a moisture content of air, wherein an air sample is introduced into an analyzer, compositional information is obtained for oxygen in the air sample in the analyzer, and a moisture content value is calculated for the air sample based on a deviation of the compositional information from the expected compositional information for dry air (p. 3, line 36-p. 4, line 10; p. 5, line 15-p. 7, line 3 of Ueda). Ueda teaches using a magnetic oxygen analyzer (p. 5, lines 20-31 of Ueda), rather than an acoustic analyzer to determine the compositional information of oxygen in the air sample. However, Lura uses an ultrasonic (acoustic) analyzer to determine composition information for oxygen in an air sample (col. 2, lines 35-38 of Lura), wherein acoustic energy interacts with the air sample to obtain acoustic velocity-related information and

the compositional information for oxygen in the air sample is determined using said acoustic velocity-related information (; col. 3, lines 51-68 of Lura). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use such an acoustic analyzer in the method of Ueda, as it is merely the substitution of one known oxygen analyzer for another.

***Allowable Subject Matter***

Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 5 is allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2 and 3, the prior art of record fails to teach or fairly suggest a method for determining a moisture content of air wherein a sample of dry gas having a known composition of at least one constituent gas is introduced into the acoustic analyzer, further compositional information for the at least one constituent gas in the dry gas sample is determined using further acoustic velocity-related information obtained by interacting the dry gas sample with acoustic energy, and a calibration value dependent on a deviation of the further compositional information from the known composition is calculated using the calibration value in the calculation of the moisture content value, in combination with all of the other limitations of the claims.

Regarding claim 4, the prior art of record fails to teach or fairly suggest a method for determining a moisture content of air wherein, during a measurement procedure, an oxygen/air gas sample is introduced into the acoustic analyzers, and further compositional information for an oxygen content of the oxygen/air gas sample is determined using the moisture content value calculated for the air sample and the further acoustic velocity-related information generated by interacting acoustic energy with the oxygen/air gas sample, in combination with all of the other limitations of the claim.

Regarding claim 5, the prior art of record fails to teach or fairly suggest a mechanical breathing aid comprising an acoustic analyzer that determines an oxygen content value of the breathing gas from acoustic velocity-related information obtained by interacting acoustic energy with the breathing gas, and that calculates a moisture content value for the air from the air source during a calibration procedure from an oxygen content value for the air determined from further acoustic velocity-related information obtained by interacting acoustic energy with air from the air source, in combination with all of the other limitations of the claim.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 4,280,183 to Santi describes an ultrasonic analyzer that determines compositional information for oxygen in an air sample using acoustic-velocity related information.

US Patent No. 4,581,942 to Ogura et al. teaches an ultrasonic oxygen concentration sensor for use with respiratory gases.

US Patent No. 5,581,014 to Douglas teaches an acoustic analyzer that introduces an air sample into one acoustic analyzer and a gas sample having a known composition of at least one constituent gas in a second acoustic analyzer.

US Patent No. 5,915,834 to McCulloh teaches an apparatus comprising a first inlet adapted for connection to an air source, a second inlet adapted for connection to an oxygen source, a mixing location in gaseous communication with the first and second inlets, and an oxygen sensor (fig. 1 of McCulloh).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia C. Mallari whose telephone number is (571) 272-4729. The examiner can normally be reached on Monday-Friday 10:00 am-6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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